IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re: Application of Dickens

Serial No: 09/512,592

Filing Date: February 23, 2000
Notice of the application published on May 16, 2000

For:

For: Re-issue of U.S. Patent 5,806,063
Issued September 8, 1998
Based on application Serial No. 725,574
Filed October 3, 1996
Entitled: Date formatting and sorting for date spanning the turn of the century

Protest under 37 CFR 1.291

The Director of the United States Patent and Trademark Office
Washington, D.C. 20231

Dear Sir:

This is a protest against the issuance of a reissue patent for U.S. Patent 5,806,063 (hereinafter Dickens). This reissue application has 76 method claims of which claims 1-15 appear in original U.S. Patent 5,806,063 and claims 16-76, are presented in this application. Claims 1, 11, 16, 26, 31-34 and 60-76 are independent.

This protest is directed at all 76 claims on the basis that each and every claim is unpatentable. All claims are unpatentable based on prior art. In addition many of the claims are invalid on formal grounds either as indefinite (35 USC 112, 2nd paragraph), are not enabled, or are not based on an appropriate written description (35 USC 112, 1st paragraph), or both. This protest includes this document and the Appendix incorporating Exhibits 1-12 as well as a set of claim charts providing exemplary readings of the 76 claims on various of the references.

Introduction

The Dickens patent describes reformatting two digit year data (YY). Because of the turn of the century that two digit year data could be misinterpreted. The Dickens specification describes rewriting the database so that it contains four digit year data. The database rewrite approach was well known in the art, and denigrated. For example, Shaughnessy (Exhibit 8) notes, at col. 1, lines 31 et seq.:

One solution to this problem would be to convert all dates within the application system of the computer to use date fields with four digit representations for the

15215_1

year. This, however, is a relatively expensive solution for a variety of reasons. First, this solution requires the creation and testing of programs to convert all date fields in all application files. Second, this solution requires the creation and testing of all modifications to all date field processing routines currently used by the application system. Finally, this solution requires conversion of all files to the new formats together with implementation of all of the modified application processing routines. Other problems with this solution, apart from the cost, include the significant amounts of system outage during the file conversions and the large amount of coordination required to prepare for the conversion while still accommodating normal maintenance activity.

Others had the same opinion of the database rewriting approach, see the similar comments of Ohms, Lysgaard and Shaw, infra. The Dickens specification does not describe how plural data files accessed by multiple programs can be revised in a practical way. More particularly the Dickens specification describes how a prior art process, which others have denominated "windowing," is used to rewrite an isolated database. The Patent Owner has admitted that the "windowing" process is both used in the invention and is in the "prior art", Patent Owner's Response to the Order Granting Reexamination in Reexamination No. 90/005,628, filed May 10, 2000 (hereinafter Response) p. 4. One author, who preceded the Dickens application by some ten years has said:

> "The conversion of isolated files to new date formats presents a rather trivial problem". Ohms, p. 248 (emphasis added)

> In a like fashion, Shaw (p. 30), in discussing Y2K solutions, notes that "the most obvious fix …is to shift affected programs to a four-digit data format."

Even more specific is another reference which also describes windowing and says:

> "What is more obvious than changing all 2 digit years to 4 digits?

> From a technical point of view such a conversion is just routine, but the disadvantage is that many elements in a EDP system are affected … the task rapidly becomes very extensive." Lysgaard, p. 514 (emphasis added)

The Dickens patent IS directed solely at the conversion of an isolated file. This patent has NO solutions directed at real world Y2K problems mentioned by these earlier workers.

The Disclosure of the Original Application

As described in the original application (filed October 3, 1996) the goal of the invention was to convert symbolic date representations to a more useful form without the addition of new fields. The symbolic date representations were derived from a database which had dates stored in a format with two digits to identify the month (MM), two digits to identify the day of the month (DD) and two digits to identify the year (YY). The invention was directed to databases wherein the dates fall within a 10-decade period. As described in the application, a 10-decade

2

window was selected and a century designator was determined for each date in the database. Of most interest was the 10-decade period spanning the year 2000. According to the application, the approach described works well with the format CCYYMMDD, where the characters have the meanings already described and the digits CC represent a century indication, such as "19" representing the 20th century and "20" representing the 21st century.

As filed the application had two figures of drawing, (Exhibit 1), figure 1 schematically showed a computer database with date information and figure 2 was a flow diagram with steps 30, 32, 34, 36 and 40.

As seen in figure 1 (Exhibit 1) the computer has a database stored either in memory or in a mass storage device. As seen in figure 2 (Exhibit 1), in the first step a 10-decade window is selected, step 32. While the patent suggests this can be automated (Col. 1/51-55), in fact the window selection is a manual process as will be explained with reference to Dickens' Exhibit A (Exhibit 2). A century designator is selected, step 34, by comparing the value of the year (YY) with the first year ($Y_A Y_B$) of the window. The symbolic representation of the date in the database is reformatted with the century designator as shown in step 36 of figure 2. After reformatting, a sorting, step 38 or a manipulating, step 40, may be accomplished.

The patent describes reformatting as including converting or rewriting a database from a form which was initially YYMMDD to the form CCYYMMDD, where the added CC digits indicate the century, i.e., "19" or "20". There is no description of any other form of converting or rewriting.

The Original Prosecution

In the first action, all the claims were rejected on an IBM publication and as based on a non-enabling specification. In the latter rejection, the Examiner noted that the specification purported to resolve Y2K "without introducing additional digits" and rejected the claims because there was no disclosure of "reformatting" without the addition of "new digits", e.g., the addition of the 2-digit century designator.

Rather than attempting to establish that his invention distinguished from the IBM publication, Dickens attempted to antedate the reference. In so doing he relied on an Exhibit A (a copy is attached hereto as Exhibit 2) as evidence of a reduction to practice of his invention. Exhibit A is also referred to in the specification (col. 3, line 58) as a program which "implemented" the "approach of the invention".

It is important to recognize from Dickens' Exhibit A (see Exhibit 2 attached hereto) that the Dickens code

```
"if cl$[1:2] < 50 then
    c$='20'+cl$"
```

shows that it was the software writer, in the selection of the parameter "50", who selected both $Y_A Y_B$ and the 10 decade window which is defined by $Y_A Y_B$. In no way is the

15215_1

window selection, or the selection of what Dickens has termed $Y_A Y_B$, an automated process.

In response to the non-enablement rejection, Dickens argued that the century designation and reformatting could be accomplished as a pre-process and that the invention "need not store" the reformatted dates in data storage. Dickens further argued that in this case there is no need for "the addition of new data fields" to store reformatted dates.

After a telephone interview the Examiner summarized the conversation by noting that "it was agreed that the summary of the invention, and the arguments of the response, were not entirely in conformity with the claims, which would be potentially allowable if the use of additional century digits did not include their storage in the database."

Dickens then amended claims 1 (Exhibit 3) and 11 (Exhibit 4) to change the phrases "reformatting the symbolic representations in the database" and "reformatting each date in the database" by simply deleting "in the database" and submitted the formal drawings which omitted the offending step 36 in figure 2. Compare Fig. 2 of the patent with the original, Exhibit 1.

Construction of the claims

As originally filed, the specification described subject matter which required selection of $Y_A Y_B$ (this is not an automatic function, and requires human input, notwithstanding the promise found in col. 1/54-55). The selected value is compared to $Y_1 Y_2$ data to determine a corresponding century indication ($C_1 C_2$) which is then used in reformatting the data in the database, see col. 2, lines 2-3, and element 36 of fig. 2, (Exhibit 1 which is different from fig. 2 in the patent) and original claims 1 (Exhibit 3) and 11 (Exhibit 4), the only independent claims. The only form of reformatting which was disclosed requires rewriting the database.

Dickens, in the supplemental amendment of April 98 (Exhibit 5), amended all claims to make it clear that the claims were NOT limited to subject matter in which the reformatted data was stored. At page 4 of that amendment Dickens stated:

"Accordingly, independent claims 1 and 11 have now been amended so as to not require storage of the converted dates, thereby not imposing any requirements for new data fields." (emphasis in the original)

Since claims 1-15 have not changed since the April 1998 amendment, Protester is of the view that Dickens' remarks in that amendment are authoritative on the construction of the claims. In other words the original claims, other than claims 9 and 14, read on methods which do not rewrite a database. At the same time, ALL claims read on methods where a database is rewritten.

The first step of the claims is the provision of a database using MM, DD and YY data. Even the Patent Owner has admitted that use of this data format is widespread, Response p. 18. The first step also indicates that the span of the data in the database is within 10 decades (or 100 years). The art also acknowledges the 100 year limitation of the "windowing process (this is

4

admitted by the Patent Owner, Response, p. 32-33). Those skilled in the art should be given credit for the skill of counting or adding, i.e., they would not apply the windowing process to datasets exceeding the known limitation of the process.

The second step, "selecting" does not distinguish from many pieces of art discussing "windowing".

The third step, "determining" is also part of the prior art windowing process.

The fourth step, "reformatting" was originally recited as:

reformatting the symbolic representation of the date in the database with the values C_1 C_2, Y_1 Y_2, M_1 M_2, and D_1 D_2 to facilitate further processing of the dates.

To the extent this was thought to require rewriting the database it might have distinguished the claims from some of the art. However the claims were broadened to recite:

reformatting the symbolic representation of the date with the values C_1C_2, Y_1Y_2, M_1M_2, and D_1D_2 to facilitate further processing of the dates.

As amended then, (1) there is no longer any requirement to alter the database and (2) the format of the reformatted data is not defined. Since the original data used the parameters Y_1Y_2, M_1M_2, and D_1D_2 (see the requirements of the "providing" step), the only requirement placed on the method by this clause is the need to somehow use C_1C_2, in addition to the input data. But the manner in which the C_1C_2 data is used is not specified.

Prior Art Cited in Reexamination 90/005,628 and Relied on Here

Lysgaard, "The Time Bomb", IFIP TC8 Conference on Governmental and Municipal Information Systems, p. 513-519, 1987; (Exhibit 6)

Ohms, "Computer Processing of Dates Outside the 20th Century", IBM Systems Journal, Volume 25, Number 2, 1986, pages 244-251; (Exhibit 7)

Shaughnessy U.S. Patent 5,630,118; (Exhibit 8) and

Shaw, "CAP Gemnni Tackles the Year 2000", NEWS 3X/400, June 1995, p. 30 (Exhibit 9).

Additional Prior Art

DeForest Post to comp.lang.cobol of April 24, 1995, (Exhibit 10)

Japanese Published Application 06-103133, April 15, 1994, (Exhibit 11)

Japanese Published Application 06-103133, April 15, 1994 – Translation (Exhibit 12).

15215_1

DESCRIPTION OF THE REFERENCES

DeForest Post to comp.lang.cobol of April 24, 1995 (Exhibit 10)

The DeForest Post to the comp.lang.cobol Forum was in response to a question concerning preparations for the year 2000. His "solution" was described as a "flat out file conversion". The Post shows that DeForest was working with six digit (YYMMDD) data and reformatted that data by pre-pending CC thereto. Using the logic shown in the Post, CC was selected as "19" (based on the comparison) "IF YY > 50" and otherwise (that is if YY ≤ 50) CC was selected as "20". Comparing the Dickens evidence of reduction to practice (Exhibit 2) with the DeForest post shows the two to be identical in substance and nearly identical in format.

DeForest	Dickens
IF YY > 50	if cl\$[1:2] < '50' then
MOVE 19 to CC	c\$ = '20' + cl\$
ELSE	else
MOVE 20 to CC	c\$ = "19" + cl\$

The first line of the DeForest algorithm has a positive outcome if YY is greater than 50, whereas in the same event Dickens' logic has a negative outcome. The equivalence of the logic is apparent since the DeForest positive outcome is an indicator of the 20th century (19) whereas Dickens' negative indication is also an indicator of the 20th century (19). Since DeForest describes a "flat out file conversion" it is clear that he anticipates rewriting the database. DeForest acknowledges the time limitations of this approach, "This may not be the best solution but it works, I'll worry about the problem this little algorithim [sic] causes in 2020". In this way he acknowledges the 10 decade limitation feature of the claims. While DeForest does not mention "sorting", the Patent Owner has admitted that sorting after Y2K correction is "part of the prior art" (Response, p. 14).

Japanese Published Application 06-103133, April 15, 1994 and Translation (Exhibits 11 and 12)

The Japanese published application is entitled "Method of managing date keys of a data file" [Title]. The reference is also addressed to Y2K [Object, 0005] and particularly describes a date key restoration unit which pre-pends to the YYMMDD data, either "19" or "20" to represent a 20th century indication (19) or a 21st century indication (20) [0006]. The determination of whether the year is 20th or 21st century is made by comparing the year to a "threshold value". If the year is greater than the "threshold" then it is in the 20th century and if the year is smaller it is in the 21st century. [0009] Thereafter the data is sorted [0012]. The table which is Key file 3 and Fig. 2 make it clear that the method of the reference includes rewriting the database so that 4 digit year data is provided.

The reference's "threshold" parameter corresponds to Dickens' $Y_A Y_B$. This parameter also establishes the extent of the "window". The reference acknowledges the 10 decade limitation on the logic by noting

6

"In general, if the minimum value of the year data in the 20th century is '$n_0 n_1$', and the maximum value of the year data in the 21st century is '$n_2 n_3$', for the threshold value, a suitable value between '$n_0 n_1$' and '$n_2 n_3$' is employed." [0011]

The "threshold" ($Y_A Y_B$) is between the minimum value of the year data in the 20th century ($n_0 n_1$) and the maximum value of the year data in the 21st century ($n_2 n_3$) and so there is no 20th century value lower than the threshold, just as expressed in the Dickens claims.

Ohms (Exhibit 7)

The 1986 Ohms publication is also directed at date processing occasioned by the end of the 20th century, e.g., the Y2K problem. Ohms describes conversions between different date formats. While he devotes several pages to explaining the Lilian format, at p. 248, under the heading "Accommodating systems support" he indicates that:

"The conversion of isolated files to new date formats presents a rather trivial problem."

And on the next page he indicates that:

"[A]s systems are maintained or replaced, it would be practical to implement full information date formats."

The fact that he contemplates applying these conversions to databases using YYMMDD data to express dates is readily identified by the table on page 247. The table indicates that Ohms describes a function to convert a "short Gregorian" date (having the format YYMMDD). Ohms succinctly describes the subject matter claimed by Dickens in the first full paragraph of the right hand column on page 248. Ohms states:

"However, it may be necessary to provide a conversion function that receives a definition of the implied century as a parameter. An excellent way to do this unambiguously is to specify a year as the desired starting point of a 100-year range. For example, if the starting year for the range is specified as 1925, dates with year digits of 25 through 99 would be between 1925 and 1999, and dates with year digits of 00 through 24 would lie between 2000 and 2024."

Ohms emphasizes the caution against using this procedure where the date range spans more that 100 years by indicating (at page 249 in the left hand column) "Where systems contain dates that span a range of more than 100 years, the century must have already have been carried. In the rare event that this is not true, immediate conversion is unavoidable". Ohms like Dickens works with a 10-decade window (10-decades is identically 100 years). It should be emphasized that the dates within Ohms' 100 year range typically fall into two different centuries (just as in Dickens). The Ohms "starting point" (which is the same as the $Y_A Y_B$ parameter of Dickens) *defines* a 10-decade window (or 100 year range). It should be noted that even in lines 28-38 on p. 248 Ohms is still referring to the100 year range (which is identically the Dickens 10-decade

7

window). Ohms, in the same passage refers to a "beginning date" (which is the same as the "starting point") "set eighty years prior to the current systems date". This sentence relates the "beginning date" or "starting point" to a current date (the current systems date). This duration (eighty years in the text) has *nothing* to do with the duration or extent of 10-decade window (or 100 year range). In this passage Ohms relates the 100 year window to the present, so as to indicate how far into the future the window extends. The Ohms example in which the start year is eighty years in the past also means that the database accommodates data for 20 years into the future (since the total span is 100 years). We will see other references also working with this relationship. All of the references which work with this relationship are more comprehensive than Dickens because *Dickens never mentions this relationship.*

Dickens, in the Response, attempts to limit the reach of Ohms to the single idea of converting a database to a Lilian format. Dickens suggests that the conversion function (p. 248 of Ohms) is described only for the purpose of data input to a file already converted to Lilian format. There is no reason one skilled in the art would read Ohms in such a limited way. In the paragraph immediately after describing the "conversion function" (at p. 248) Ohms mentions the "conversion of isolated files to a new date format", and notes that this "presents a rather trivial problem." Protester suggests this very subject matter represents the anticipation of Dickens. Just because Ohms characterizes the conversion as "trivial" is no reason to ignore the teaching. See the discussion of Celeritas Technologies, infra.

Lysgaard (Exhibit 6)

Lysgaard describes, in "The Time Bomb" presented at the 1987 Conference on Governmental and Municipal Information Systems, in Budapest, his solution to the problem caused in EDP by the use of two digit dates as the year 2000 approaches. Lysgaard's "Time Bomb" would later be referred to as the Y2K bug. Lysgaard stated "If at all times a date has a relevant range of less than (or equal to) 100 years, then a two digit year is theoretically adequate to identify the year within the relevant interval of time" (p. 515). Lysgaard also recognized:

> "If information as the valid time interval is added to the programme - maybe just the start year for the 100 year interval - the programmes will be able to handle all time calculations correctly."

What Lysgaard called the "start year" is the same parameter that Dickens refers to as $Y_A Y_B$ since there is no data prior to the "start year" in the database. Consequently Dickens' prescription that no year representation in the database be earlier than $Y_A Y_B$ is also met. While one solution which the author describes in detail may be more elegant than Dickens', the author does note, relative to "format conversion":

> "What is more obvious than changing all 2 digit years to 4 digits?"

and notes that from the technical standpoint this "is just routine" (p. 514).

8

Lysgaard continues:

> "Information that the relevant interval starts in 1955 will for example, mean that 55 - 99 is interpreted as 1955 - 1999, whilst 00 - 54 is interpreted as 2000 – 2054." (p. 515)

Lysgaard also calls attention to the errors which result when sorting using two digit years (p. 516). One solution he proposes is the "temporary addition of auxiliary fields stating the century and included in the sorting criteria" (p. 516). This is exactly the Dickens solution. Dickens prefers to call the "temporary addition of auxiliary fields" a "reformatting", but however you name the operation it is the pre-pending of YYMMDD with CC, referencing the correct century for the date and then a straight numerical sort on the augmented (CCYYMMDD) data.

Shaw (Exhibit 9)

Shaw, in "CAP Gemnni Tackles the Year 2000", NEWS 3X/400, June 1995, p. 30, describes Y2K "windowing" in a single sentence. He said:

> Another common solution is to pick a cut-off point, say 1950, where any two-digit dates after that point (51, 52 and so on) are treated as 20th century dates and any dates before that (01, 02, and so on) are considered post-millennium dates.

Of course, the "cut-off" is the same parameter that Dickens labels as Y_AY_B. "Considering" the two digit dates as either 20th or 21st century, dependent on the relation between the "cut-off" and the two digit year is the same as the "reformatting". Just prior to describing "windowing", Shaw notes:

> "The most obvious fix is to shift affected programs to a four-digit data format."

Shaw is reporting to those skilled in the art that the "cut-off" algorithm can be used either "on the fly" (without modifying the database) or, in the "most obvious" way, by actually rewriting the database.

Shaughnessy (Exhibit 8)

The Shaughnessy patent relates to computer systems that perform date operations on date fields spanning a century boundary. While the title is generic, the text indicates that it is Y2K which is the genesis of the patent. Shaughnessy describes the modifications to computer systems so that date operations can be performed correctly even when processing dates after December 31, 1999, e.g., Y2K. The data formats that are employed in accordance with Shaughnessy are found in a table attached as an appendix, see column 18. As indicated in column 18, there are several different formats that are represented as "YYMMDD". The appendix notes that for formats B, F and S (all of which are YYMMDD) that "the date cycle is 100 years". The general sequence of operations described by Shaughnessy is shown in figure 2 where the requested date operation is performed only after certain precursor steps are performed. The precursor steps include determining the current date, determining the end of the 100-year cycle and determining

9

two possible century values. As shown in figure 4, the end of the 100-year cycle can be determined either based on the current date or based on the system installation date. In either event, once the end of the 100-year cycle is determined, the system derives two dates separated by a period of 100 years (10 decades).

Figure 5 shows how the two possible century values are determined. In particular, the later of the two centuries is determined as the century of the date at the end of the 100-year cycle, and the earlier century is the century preceding the later century.

Figure 7 shows how the century value (this corresponds to C_1C_2 of Dickens) is assigned. Assignment includes a comparison between the date representation (e.g., YY) with a "end of the 100 year cycle". The text indicates that:

"If the date is less than or equal to the end of the 100 year cycle date, the CENTURY2 value is assigned to the date (box 64). If the date is greater than the end of cycle date, the CENTURY1 value is assigned to the date (box 66)". Column 7, lines 9-13.

Note this Shaughnessy century determination is identical to the Dickens century determination. This identity is apparent by equating Dickens' Y_AY_B with the Shaughnessy "end of the 100 year cycle date".

After the century designator (this is CENTURY1 or CENTURY2) is assigned the date is reformatted to the format YYYYMMDD (see column 6 line 65). Of course, the first two of the Y digits represent the assigned century. This is identical to the format $(C_1C_2Y_1Y_2M_1M_2D_1D_2)$ of Dickens claim 11.

While the Shaughnessy specification comprehends several embodiments, the embodiment which deals with a C1 date format is limited to date spans of 100 years or less. This is apparent from the determination of the "end of the 100 year cycle" and the fact the date ambiguity is resolved by determining which of two possible century values is appropriate.

Shaughnessy indicates (column 1, line 26 and column 8, line 34 – column 12, line 20) that computers typically compare dates. Indeed, sequentially comparing dates is also referred to as sorting and therefore in these passages Shaughnessy teaches that dates processed in accordance with the procedure just described can then be used for sorting purposes. Alternatively, the patent owner has admitted that sorting after Y2K correction is part of the prior art (Response, p. 14).

While the impetus for the Shaughnessy patent was Y2K (the problem occasioned by the transition from the 20th to the 21st century) it should be clear that the Shaughnessy specification also describes solutions applicable to analogous but not necessarily identical problems. The Shaughnessy specification describes (1) maintaining a database unchanged (1/60-2/5) even though the data could be misinterpreted and (2) the alteration of the program logic by the addition of a subroutine. The subroutine allows the selection of the appropriate date. Reference to the Appendix (col. 18-19) indicates that Shaughnessy contemplated one data format in which the date "cycle" was 100 years (the C1 format) and another data format in which the date "cycle"

10

was 10,000 years (C2). Shaughnessy describes that using a two digit year data format, 100 year cycle data is misinterpreted at the turn of the century (that is the reason it is necessary to determine whether a date is CENTURY1 or CENTURY2). Using four digit year data there is a similar problem in 10,000 year cycle data, i.e., when there is a transition from the year 9999 to the year 10,000. While the Shaughnessy specification may apply to databases with C1 data, as well as database with C2 data, there is <u>nothing</u> in the patent to suggest mixing 100 year cycle data with 10,000 year cycle data in one database. It should be clear from the description of "windowing" contained in Ohms (1986) and Lysgaard (1987), that by the 1994 filing of the Shaughnessy application the art was well aware of the 100 year limit associated with two digit year data. Consequently the Shaughnessy description is quite adequate on the question of limiting data ranges to 100 years when interpreting data with two digit year data. The first Shaughnessy flowchart has a function to determine the "end of 100 year cycle" – this discloses the 100 year limit of year data to those skilled in the art as of 1994.

Shaughnessy, like some of the other references also relates the 100 year window to the present. This relationship is determined by the "number of years of future dating" (6/10). Shaughnessy also provides another degree of freedom to the user in that the "end of the 100 year cycle" may be updated (6/13). In <u>both</u> respects Shaughnessy goes beyond the Dickens specification in that *Dickens never mentions either parameter*. Neither of these parameters ("number of years of future dating" or the ability to update the "end of the 100 year cycle") bears on the manner in which Shaughnessy anticipates the Dickens 100 year window or the manner in which the correct century designator is determined. To be sure, Shaughnessy describes using the "end of the 100 year cycle" while Dickens uses the beginning of the 100 year cycle. However, for any given window these two numbers differ by unity. Consider a Dickens window defined by Y_AY_B of 50. This window extends from 1950 to 2049. The corresponding Shaughnessy "end of the 100 year cycle" is 49, and it defines the same window, from 1950 to 2049.

Errors in the Patent Owner's Response

In the Patent Owner's Response, Ohms is dismissed as non-anticipatory in that he teaches the use of Lilian format (Response, p. 6) as opposed to the use of CC, YY, MM and DD data formats. The Patent Owner takes the erroneous position that only the preferred embodiment or the main focus of a reference is patent defeating. To the contrary see <u>Celeritas Technologies</u> v. <u>Rockwell International Corp.</u>, 47 USPQ 2d 1516, 1522 (CAFC 1998). Celeritas made the same argument; the CAFC disagreed. The Court noted:

> "A reference [Ohms for example] is no less anticipatory if, after disclosing the invention, the reference then disparages it [by referring to the invention as "trivial" and favoring the Lilian format]. Thus the question whether a reference 'teaches away' from the invention is inapplicable to an anticipation analysis".

While Ohms does describe the Lilian format, he also describes the trivial conversion of isolated files. This is an anticipation of the claims to which the reference was applied.

Similarly the Response dismisses Shaughnessy (Response p. 20 et seq.) and Lysgaard (Response p. 30 et seq.) as related to the use of subroutines presumably because

11

technology using subroutines did not include a feature of rewriting the database, i.e., the reformatted data was not stored. However, since there are many claims in the patent which do not require storage of reformatted data, neither reference can be so easily dismissed. In addition, as already noted both Shaughnessy and Lysgaard **do** teach rewriting the database, see col. 1, lines 31 et seq. of Shaughnessy and Lysgaard's comments on the "routine" nature of changing date files to 4 digit format on p. 514. The Patent Owner attempts to distinguish Shaughnessy since:

> "[T]his 'on call' or 'on the fly' windowing of at most two date data entries at a time is not the subject matter of the <u>claimed invention</u>." (Response, p. 23, emphasis in the original)

However, when it suited the Patent Owner (and directly to the contrary) they argued:

> "Thus, the method of this embodiment of the <u>claimed invention</u> does not require additional data fields for storage because the reformatted dates with century designations are only used "<u>on the fly</u>" for data manipulation and are not stored in data storage." (Amendment of April 2, 1998, p. 5, emphasis added – Exhibit 5).

The response also argues that Shaughnessy only operates on at most two dates at a time and so does not meet the "each" limitation of the claims (Response, p. 24). To the contrary, it is crystal clear that the Shaughnessy subroutines apply to EACH item of date data in the database. That is <u>all</u> the specification discloses. There is nothing in the disclosure to suggest processing occurs on all dates AT THE SAME TIME, in fact there is no time limit or order for date processing specified anywhere in the specification. To the extent any new claim does call for, or specify, a time limit related to, or order of date processing, that claim is devoid of a written description and hence invalid, see WRITTEN DESCRIPTION REQUIREMENT, <u>infra.</u>

Incredibly, the Response argues that

> "There is no teaching in Lysgaard of 'determining a century designator C_1C_2 *for each symbolic representation of a data in the database*', and *'reformatting the symbolic representation of the date [for each such date in the database],'* as recited in claim 1." Response p. 30, emphasis in the original

Apparently the Patent Owner did not notice Lysgaard's comment at p. 514 that

> "What is more obvious than changing all 2 digit years to 4 digits?
>
> From a technical point of view such a conversion is just routine, ..."

The Response attempts to avoid the effect of prior art combinations (Ohms and Japan '947) by asserting that there is no suggestion to combine the references found "in either reference" (Response p. 13). The lack of a suggestion, in one reference to combine it with another, has no bearing on the issue of obviousness under section 103. Rather than the

12

irrelevancies espoused by the Patent Owner, it is clear that when two or more references are combined, there must be some discernable suggestion or motivation in the prior art to combine the references. More specifically, the suggestion or motivation to combine teachings can come from the references themselves, the nature of the problem being solved, or the knowledge of persons skilled in the art, In re Rouffet, 149 F.3d 1350, 1357 (CAFC 1998). In this case, since both references are specifically directed to obviating Y2K, the suggestion to combine comes from the nature of the problem being solved and/or the knowledge of persons skilled in the art.

APPLICATION OF THE REFERENCES

There are innumerable pertinent references, practical considerations have limited the extent of this protest to rely on the 6 references cited herein. Even these references repeatedly cover much of the same ground. Each of the 76 claims are anticipated by at least one reference which was published more than one year before the filing of the Dickens application in Oct. of 1996. For the reader's convenience, claims 1-76 are applied to the references in claim charts found in the Appendix.

The Japanese Published Application 06-103133 was selected to illustrate anticipation of a majority of the claims, in particular that reference is applied to claims 1-6, 8-11, 13-21, 23-26 and 28-76 (PUPA1-76). Claims 7, 12, 22 and 27, the only claims to which the Japanese published application was not applied, call for a format conversion prior to the Y2K reformatting. The failure of the reference to mention this preliminary format conversion is only evidence that the reference is concise. In fact, format conversion, such as recited in claims 7, 12, 22 and 27, is common and trivial in the art. Ohms is one cited reference which discloses (p. 247) this format conversion, Shaughnessy is another (see the appendix at column 18, the conversion among these formats is expressly taught at column 8, lines 18-27). Inasmuch as the Japanese published application, Ohms and Shaughnessy are all directed to Y2K and further inasmuch as both Ohms and Shaughnessy are more comprehensive on this point than the Japanese published application, it would have been well within ordinary skill in the art to supplement the processing disclosed in the Japanese published application to add to it the preliminary format conversion taught in either Ohms or Shaughnessy. On this basis claims 7, 12, 22 and 27 are considered invalid under 35 USC 103.

Shaughnessy is applied as an anticipation to claims 1-7 11, 12, 15, 16, 22, 26 and 27 (SH1-27), Ohms is applied as an anticipation to claims 1-4, 7, 9 and 10 (OH1-10) and DeForest is applied as an anticipation to claims 1-6, 8-11 and 13-15 (DEF1-15).

The Patent Owner has confirmed that claims 73 and 74 are broader than claims 1 and 11 (Preliminary Amendment, p. 4). Consequently, claims 73 and 74 are anticipated by Shaughnessy or Ohms or DeForest in the same manner as those references are applied to claims 1 and 11.

The Patent Owner has confirmed that claims 75 and 76 are broader than claims 1 and 11 (Preliminary Amendment, p. 4). Consequently, claims 75 and 76 are anticipated

13

by Shaughnessy or Ohms or DeForest in the same manner as those references are applied to claims 1 and 11.

The Patent Owner has indicated that claims 16, 26, 31 and 32 recite, beyond the subject matter of the original claims, that the reformatting occurs "without the addition of any new data field to the database" (Preliminary Amendment, p. 5). The Japanese published application and DeForest both teach the reformatting by adding CC as a prefix to YYMMDD, which is also referred to as pre-pending CC to YYMMDD. Since these teachings anticipate the ONLY disclosure of reformatting in the Dickens application, it follows that if the claim language is supported by the Dickens specification, it is also anticipated by both of these references. On this basis claims 16, 26, 31 and 32 are anticipated by Japanese published application and DeForest.

WRITTEN DESCRIPTION REQUIREMENT

The Federal Circuit has interpreted 35 USC Section 112, first paragraph (112/1st), as mandating three separate requirements. Particularly, the specification must include a written description of:

> 1) "the invention"; {the written description requirement}
>
> 2) "the manner and process of making and using [the invention] . . .so as to enable any person skilled in the art . . . to make and use [the invention]", {the enablement requirement}
>
> 3) "the best mode contemplated by the inventor of carrying out [the] invention." {the best mode requirement}

To satisfy the written description requirement, "applicant must ... convey to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the 'written description' inquiry is whatever is now claimed." Vas-Cath, Inc. v. Mahurkar, 935 F.2d 1555, 1563-66 (emphasis in original). "One shows that one is in 'in possession' of the invention by describing the invention, with all its claimed limitations. . . ." Lockwood v. American Airlines, Inc., 107 F.3d 1565, 1572 (CA FC 1997) (emphasis added).

The "written description" requirement is also clearly explained at MPEP 2163. The requirement can be summarized as follows (from MPEP 2163.01, at p. 2100-124):

> "If the examiner concludes that the claimed subject matter is not ... described ... in the application as filed, this would result in a rejection of the claims on the ground of a lack of written description under 35 U.S.C. 112, first paragraph ...."

As indicated at MPEP 2163.05 the failure to meet the written description requirement commonly arises "when claims are changed", such as the new claims 16-76 introduced in the reissue application. Note Ex parte Ohshiro, 14 USPQ 2d 1750 (Bd. Pat. App. & Inter. 1989), cited at MPEP 2163.05II (p. 2100-127).

15215_1

In other words, the original specification must provide a description of ALL of the features of ALL of the claims. Claim features which are not described in the specification emphasize a failure to comply with the required "written description" mandated by 35 USC 112, 1st paragraph. There are many examples in the newly presented claims.

Claims 32 and 69

Claims 32 and 69 call for sorting dates "in the form $C_1C_2Y_1Y_2$". The specification only describes sorting with the format $C_1C_2Y_1Y_2M_1M_2D_1D_2$. In particular, at col. 2, lines 15-21:

> This approach works particularly well if the dates are represented in the format $C_1C_2Y_1Y_2M_1M_2D_1D_2$. The date Dec. 15, 2000 is represented in this format as 20001215, for example. Dates represented in this format may be directly sorted numerically by fast sorting techniques, and thereafter stored back in the database.

and at col. 3, lines 38-48:

> The symbolic representations of the dates in the database are reformatted with the values C_1C_2, Y_1Y_2, M_1M_2, and D_1D_2, numeral 36 of FIG. 2. In one case that produces particularly advantageous results for many operations, such as chronological date sorting, the date is represented in the form $C_1C_2Y_1Y_2M_1M_2D_1D_2$. For example, the date 12/15/93 (Dec. 15, 1993) is represented as 19931215 and the date 12/15/00 (Dec. 15, 2000) as 20001215. A straightforward numerical sort of date data fields expressed in this form produces an accurate chronological ordering.

There is no other disclosure. There is no disclosure of sorting "in the form $C_1C_2Y_1Y_2$" as recited in these claims. It is important to note that sorting as CCYYMMDD is _different_ from sorting on CCYY. For example, sorts on CCYY will not distinguish or sort months or days, e.g., a sort on CCYY will not put January before February, etc. but sorting as CCYYMMDD will properly order every day of the 20th and 21st centuries. Dickens, in the Preliminary Amendment, argues that the "new claims are supported by the original specification" (p. 7). While he goes on to quote selected portions of the specification (Preliminary amendment, pp 7-9) he nowhere attempts to match claim language to specification. The argument, without meaningful comparison between phrases of the claims and the specification, is window dressing and has no substance.

These recitation of claims 32 and 69 are unsupported by any written description. The claims are invalid under 35 USC 112, 1st paragraph. In addition if these recitations of claims 32 and 69 mean something other than "sorting with the format $C_1C_2Y_1Y_2M_1M_2D_1D_2$" then these claims are also invalid as not enabled under 35 USC 112, 1st paragraph.

15

Claims 33, 60-61, 64-65 and 70

Claims 33, 60-61, 64-65 and 70 call for reformatting to occur "without changing" or "without modifying" the symbolic date representations during the reformatting. The specification indicates that "[I]n one case" YYMMDD date data is reformatted to appear in the form CCYYMMDD (col. 3, line 41-43). This is not support for reformatting "without changing" or "without modifying" the data representation. There is no other disclosure. Dickens' argument (Preliminary Amendment, p. 7) is, again, devoid of substance. There is simply no disclosure of reformatting occurring without changing or modifying the symbolic representation. Furthermore, in the absence of any disclosure of this process it is not apparent how the specification could be enabling. Accordingly, each of these claims (33, 60-61, 64-65 and 70) are invalid under 35 USC 112, 1st paragraph.

Claims 16-30, 32, 34-67, 69-71, 75 and 76

Each of claims 16-30, 32, 34-67, 69-71, 75 and 76 call for processing relative to a "pivot date" or "pivot year". The specification includes neither term. Under these circumstances, just what meaning would be attributed to those phrases in the claim is unknown. Since there is no indication that "pivot date" or "pivot year" subject matter was a feature of the invention, those claims are not based on an adequate written description. Hence each of the claims (16-30, 32, 34-67, 69-71, 75 and 76) are invalid under 35 USC 112, 1st paragraph.

Claims 20-21, 62-65 and 71

Claims 20-21, 62-65 and 71 call for either "reformatting" or "storing" "separately" from the symbolic representations in the database or from the database. There is no disclosure in the specification which allows for reformatting or storing separate from the symbolic representations in the database or from the database. Since there is no indication that this subject matter, or any of it, was part of the invention at the time of filing the 1996 application, each of the claims which include the subject matter are invalid under 35 USC 112, 1st paragraph, as not being supported by an adequate written description.

Claims 16-25, 31-33, 66-67 and 72

Claims 16-25, 31-33, 66-67 and 72 call for "collectively further processing". There is no indication in the specification that collective processing is a part or feature of the invention. Accordingly, claims which are directed to "collectively further processing" (as are claims 16-25, 31-33, 66-67 and 72) are not supported by an adequate written description and are hence invalid under 35 USC 112, 1st paragraph.

Claims 36-43

Claims 36-43 are limited to "collectively" operating. In particular, claims 36, 37, 40 and 41 are directed to "collectively sorting" whereas claims 38, 39, 42 and 43 are directed to "collectively manipulating". While the application mentions both sorting and manipulating, there is no mention of "collectively sorting" or "collectively manipulating". In the absence of some indication that "collectively sorting" and "collectively manipulating" was a feature of the invention, these claims in each of them are not supported by and adequate written description and hence are invalid under 35 USC 112, 1st paragraph.

16

Claims 34-61, 63 and 65

Claims 34-61, 63 and 65 include a step of "running a program collectively". While the specification does not mention "running a program" in so many words, it does mention sorting operations. Conceivably, then, since in many cases sorting is accomplished by executing a program, it could be argued the specification does provide a written description of executing a program in order to perform a sorting operation. Notwithstanding the foregoing, claims 34-61, 63 and 65, calling for "by running a program collectively" appear to call for subject matter beyond what could be said to be described in the specification. Accordingly, these claims are invalid under 35 USC 112, 1st paragraph, for lack of an adequate written description.

Claim 36-37, 40-41, 48-49, 51-59 and 69

These claims also call for running a program, but call for running a program subsequent to a step of sorting. For this reason it is apparent that the program which is being run is not a program to accomplish sorting. Under these circumstances there is no written description of the claimed method and these claims are unpatentable under 35 USC 112, 1st paragraph, for similar reasons.

Claims 38-39, 42-43

These claims call for data manipulation before running of the program. Since there is no description of running a program as well as no description of sorting before running a program, there is no interpretation of these claims which are even arguably supported by any written description. The claims are therefore invalid.

Claims 56-59

These claims not only call for a program to manipulate some data, but the claims specify how that data is manipulated. In each case, however there is no hint in the specification of the claimed data manipulation. In short, each claim fails to be supported by an adequate written description and is invalid.

Claims 46-59

These claims provide for further specificity on the conversion step of the parent claim 34. In particular the claims require that the conversion is effected by "repeating" a step of "converting at least a substantial portion" of specified data. However, the specification neither supports the requirement to "convert at least a substantial portion" of anything nor any repetition of any such "converting. Again, the claims are not supported by an adequate written description and are invalid.

Claims 34-65 and 70-71

Claims 34-65 and 70-71 call for "converting" symbolic representations "by windowing the symbolic representation". While the application describes the selection of a 10-decade window, there is no hint in the specification for the meaning to be attributed to the verb "windowing". It is not apparent from the specification that the operation of "windowing" was a feature of the invention and under these circumstances, claims which are limited to "windowing" are not supported by an adequate written description as required by 35 USC 112, 1st paragraph. Accordingly, these claims (34-65 and 70-71) are invalid.

17

Claim 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57 and 59

Claims 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57 and 59 include a step of "opening the database prior to the step of converting". There is no indication in the original specification that there was any relation between opening a database and the invention or any portion thereof inasmuch as there is no mention in the original specification of "opening the database". Accordingly, on the basis that lack an adequate written description, they are invalid under 35 USC 112, 1st paragraph.

Claims 34-65, 70 and 71

Claims 34-65, 70 and 71 refer to avoidance of an "ambiguity" by reformatting or converting date representation. The specification describes that dates containing only two digit year representations, and without reformatting, may sort improperly. There is no indication of any ambiguity, and there is no indication that reformatting or conversion to avoid an ambiguity is any part of the invention. As such each of these claims is not supported by a written description as required by 35 USC 112, 1st paragraph and hence each claim is invalid.

Claim 54, 58

Claims 54 and 58 require "collectively manipulating the converted symbolic". Whatever thought was in the mind of the writer, may still be there, but the thought was not conveyed in the claim. The claim is incomplete and therefore invalid, 35 USC 112, 2nd paragraph.

Claims 1-15, 31, 33, 68, 72-74

Claims 1-15, 31, 33, 68, 72-74 recite selection of a "$Y_A Y_B$ value for the first decade" of a window. There is no known meaning for the "value of a decade" and the specification provides no assistance. The specification provides:

"A 10-decade window with a $Y_A Y_B$ value for the <u>first year</u> of the ten-decade window is selected, $Y_A Y_B$ being no later than the earliest $Y_1 Y_2$ year designator in the database." (Emphasis added).

This provides no clue as to the meaning for the phrase which actually appears in these claims which calls for the selection of a "value for the first decade" of the window. There is no reason for claims which require the public to guess at their meaning. These claims are invalid as indefinite under 35 USC 112, 2nd paragraph.

15215_1

For the reasons expressed herein Protestor submits there is not a single claim in the Reissue application which is patentable.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 03-2775. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

CONNOLLY BOVE LODGE & HUTZ LLP

Dated: July 14, 2000
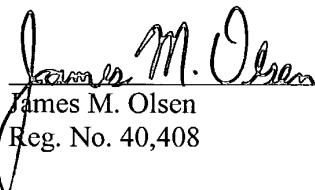
James M. Olsen
Reg. No. 40,408

15215_1

CERTIFICATE OF SERVICE

It is hereby certified that a copy of the attached PROTEST OF RE-ISSUE OF DICKENS

U.S. PATENT 5,806,063, AND APPENDIX, was served this 14th Day of July, 2000, by First

Class Mail to the Following:

William C. Cray, Esquire
Levin & Hawes
384 Forest Avenue, Suite 13
Laguna Beach, California 92651

Signed: _James M. Olsen_

15613_1